Information Alert
Pine Sawflies Identified East of Overgaard
July 2007

Pine sawflies have been noted east of Overgaard bordering Hwy. 260 to Pinedale, a stretch of about 16 miles. They seem to have mainly targeted the open-grown ponderosa pines that survived the Rodeo-Chediski fire and single ponderosa pines growing in the pinyon-juniper vegetation type. Infested trees have sparse foliage and thin crowns. These insects cause partial or complete defoliation of pines.

The defoliation is caused by the larval (caterpillar) stage of the insect and is easily detected in late spring and early summer when the caterpillars feed on the needles. Normally these insects are not very abundant, but sometimes their numbers build up causing very noticeable defoliation.

The caterpillars are hairless and light to dark green or yellow with stripes or spots of green, black or brown depending on species. Two distinctive eyes are present. The larvae will rear up defensively in a characteristic “s” shape when disturbed, and regurgitate a drop of pine sap. The sap acts as a repellent to predators and parasites. The larvae will sometimes feed on the young, tender bark of shoots and small branches especially when high populations are present.

Very noticeable green, caterpillar droppings can also be seen on the ground below heavily infested trees.

When mature, in late spring or summer, they drop to the ground and spin cocoons in the litter or soil. The pupal (cocoon) stage remains in the soil usually until fall when adults emerge, mate and the females lay eggs. The eggs are laid in slits that the female makes in the needle with a saw-like egg-laying structure (ovipositor). The females are about ¼ inch long and mainly brown in color. The males are smaller and usually are black and have feathery antennas. They are related to wasps and bees and resemble them quite loosely. They are a non-stinging wasp. The young larvae consume only the outer needle tissue leaving the central ribs intact. The central ribs later turn yellow brown and may break off.

Please refer to the "USDA Field Guide to Insects & Diseases of AZ & N. M. Forests" at www.fs.fed.us/r3/resources/health/ for more images of sawfly eggs larvae and adults.

Sawfly populations are controlled by spring and summer storms, wasp parasites, predacious insects, and rodents that dig up and destroy cocoons. A few larvae on small trees can be handpicked and disposed of or a high pressure hose can be used to wash them off. Colonies of larvae can be easily removed by properly clipping off the infested branch. Inspect all pines in early to mid-spring for groups of hatching larvae.

Sawfly infestations can cause growth loss and mortality. Trees of all ages are susceptible to sawfly defoliation. The tree usually recovers the following spring as it grows new needles unless the sawfly population is present for a second year. However, trees heavily burned by the Rodeo-Chediski fire may not recover from one defoliation.

Consider slow, deep, and infrequent watering of all your trees around your home, starting now, with a properly installed and maintained drip system, or with a soaker hose placed around the dripline of the tree. But first, check with your local water company for current water restrictions. Continue watering until the "monsoon" rains are well established. Please refer to the watering brochure at http://cals.arizona.edu/pubs/water/az1298.pdf.

For further information about this insect, or other forest health concerns in the area, contact: Bob Celaya, Forest Health Specialist, Office of the State Forester, 602/771-1415.